"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ACC NR: AP7004795 (A) SOURCE CODE: UR/0413/67/000/001/0131/0131

INVENTOR: Irikhimovich, M. I.; Nazarov, I. I.; Semenov, M. N.

ORG: None

TITLE: A method for making food loaves. Class 53, No. 190196

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 131

TOPIC TAGS: food technology, food ration

ABSTRACT: This Author's Certificate introduces: 1. A method for making loaves from food substances such as jelly by filling hollow tubes with a paste to make the loaf, cooling the tubes, and subsequent reheating with simultaneous melting of the upper layer of the resultant loaf and emergence under its own weight. In order to produce loaves with a gelatinous crust and various types of paste fillers, an agar-sugar-molasses syrup is poured into the hollow tubes before filling them with the paste and the tubes are then cooled with continuous rotation. 2. A modification of this method in which the agar-sugar-molasses syrup is introduced in a quantity sufficient to form a crust with a thickness of 3-5 mm.

SUB CODE: 06/ SUBM DATE: 05Oct65

Card 1/1 UDC: 664.143

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IRIKIN, V.F., Veterinarnyy vrach; STAROSEL'SKIY, L.S.

From the work practice in eliminating sterility in cows. Veterinariia 31 no.11:23-28 N '54. (MLRA 7:11)

1. Uchastnik shirokogo pokaza Vsesoyuznoy Sel'skokhozyaystvennoy Vystavki.

(COWS) (STERILITY IN ANIMALS)

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IRIKIN, V.F. (Veterinary Doctor, Director of the Kostroma Station for Artificial Insemination of Agricultural Animals).

"Characteristics of involution of the sexual system in cows in the absence of exercise..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 64

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRIMES, Mircea, ing.

We Rumanians must know the new Route Guide. Rev cailor fer 11 no.9:491-495 S '63.

1. Directia regionala Cluj.

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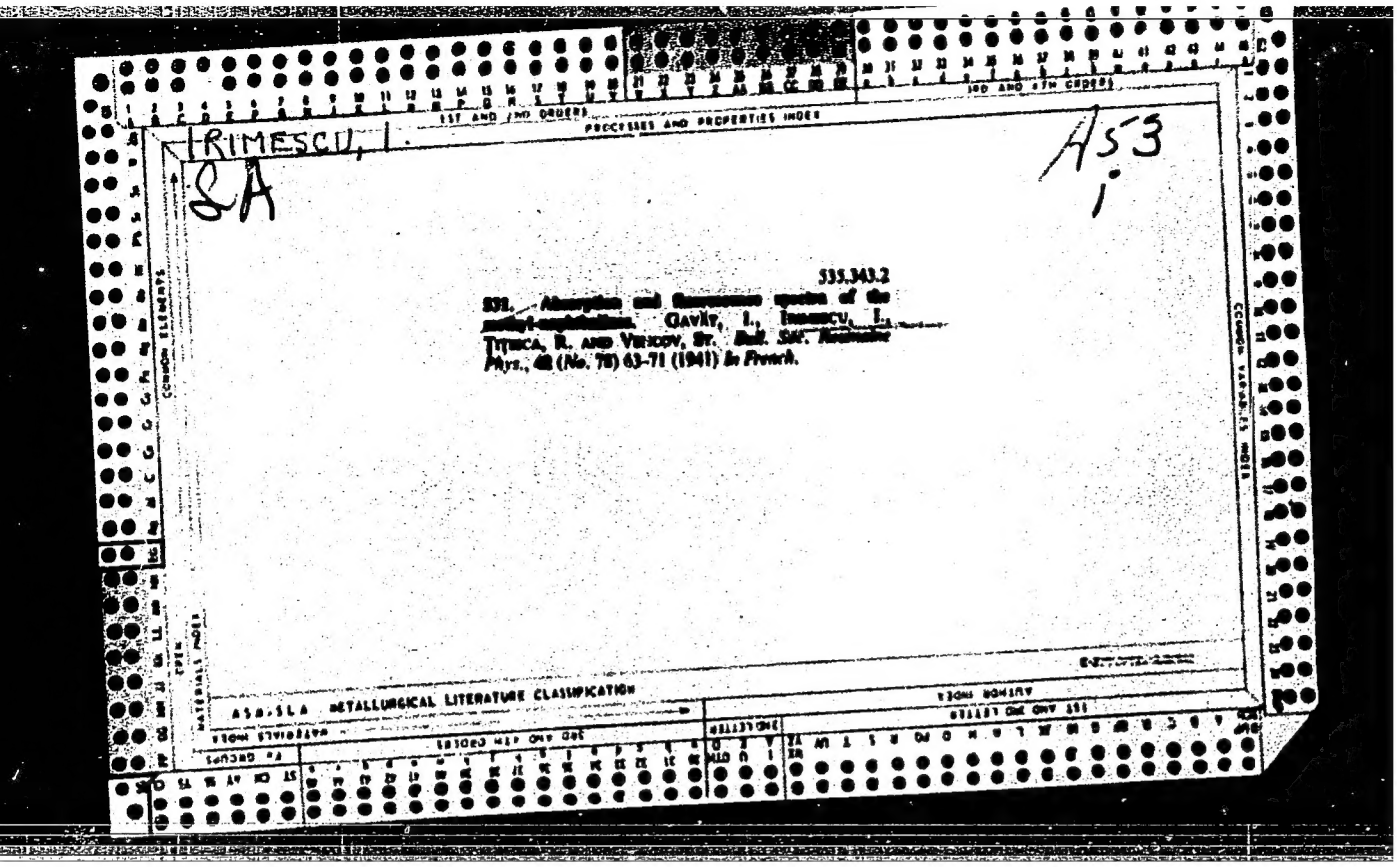

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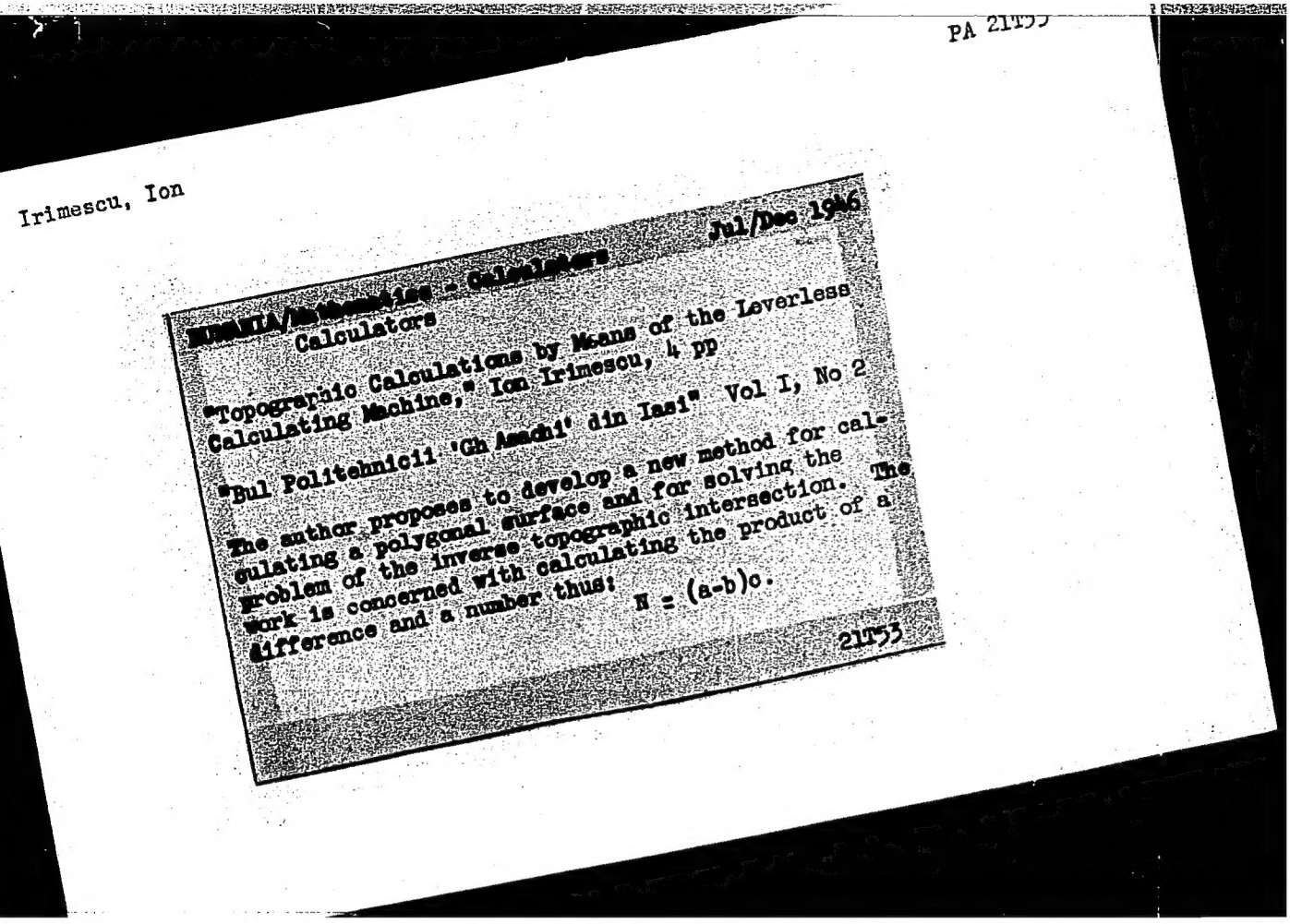

PA 21T53

Irimescu, Ion

Jul/Dec 1956

RUMANIA/Mathematics - Calculators

Calculators

"Topographic Calculations by Means of the Leverless Calculating Machine," Ion Irimescu, 4 pp

"Bul Politehnicii 'Gh Asachi' din Iasi" Vol I, No 2

The author proposes to develop a new method for calculating a polygonal surface and for solving the problem of the inverse topographic intersection. The work is concerned with calculating the product of a difference and a number thus: N = (a-b)c.

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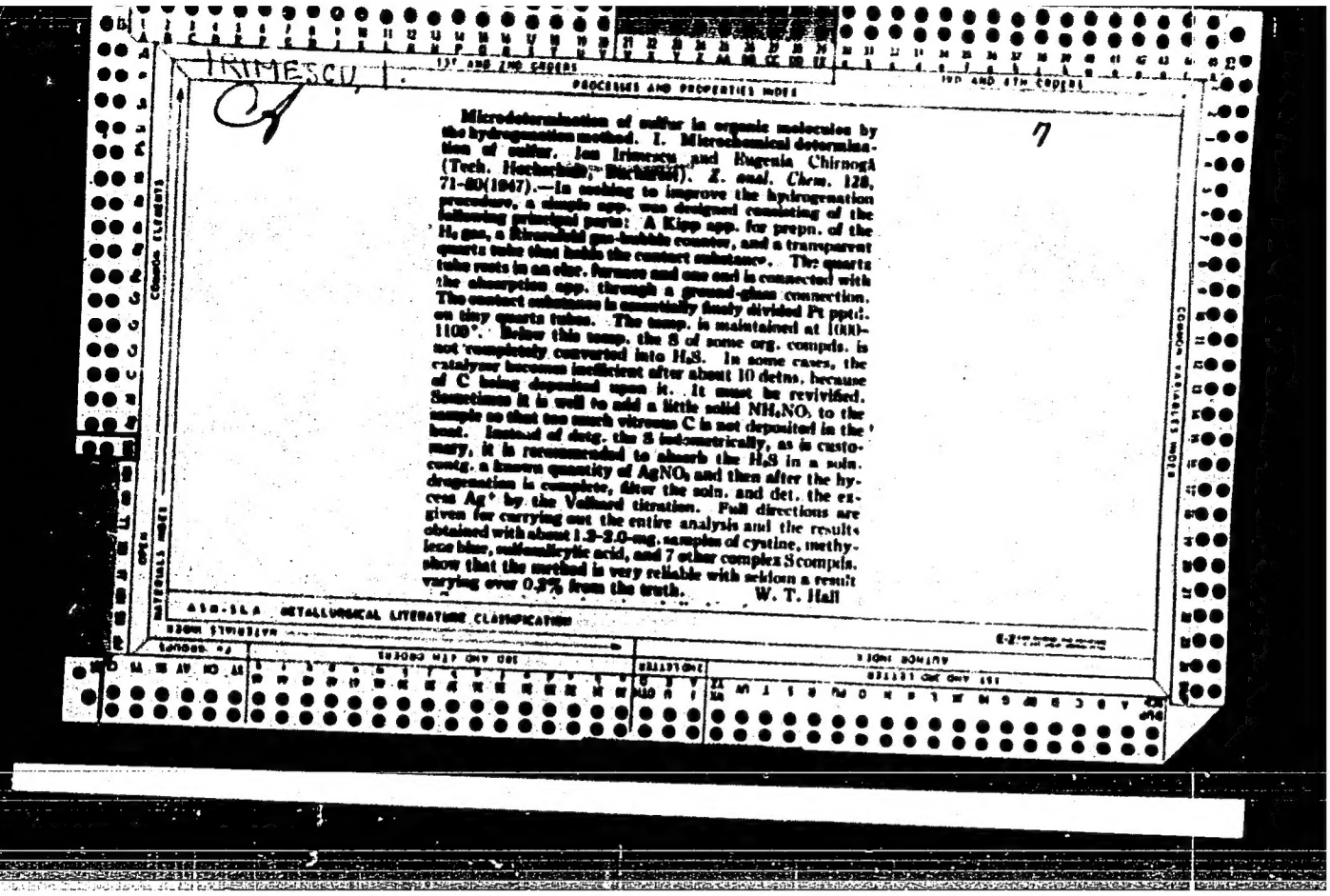

IRIMESCU,

PROCESSES AND PROPERTIES INDEX

Microdetermination of sulfur in organic molecules by the hydrogenation method. I. Microchemical determination of sulfur. Ion Irimescu and Eugenia Chirnoagă (Tech. Hochschule, Bucharest). *Z. anal. Chem.* 128, 71–80(1947).—In seeking to improve the hydrogenation procedure, a simple app. was designed consisting of the following principal parts: A Kipp app. for prepn. of the H_2 gas, a Riesenfeld gas-bubble counter, and a transparent quartz tube that holds the contact substance. The quartz tube rests in an elec. furnace and one end is connected with the absorption app. through a ground-glass connection. The contact substance is essentially finely divided Pt ppte. on tiny quartz tubes. The temp. is maintained at 1000–1100°. Below this temp. the S of some org. compds. is not completely converted into H_2S. In some cases, the catalyzer becomes inefficient after about 10 detns., because of C being deposited upon it. It must be revivified. Sometimes it is well to add a little solid NH_4NO_3 to the sample so that too much vitreous C is not deposited in the boat. Instead of detg. the S iodometrically, as is customary, it is recommended to absorb the H_2S in a soln. contg. a known quantity of $AgNO_3$ and then after the hydrogenation is complete, filter the soln. and det. the excess Ag^+ by the Volhard titration. Full directions are given for carrying out the entire analysis and the results obtained with about 1.5–2.0-mg. samples of cystine, methylene blue, sulfosalicylic acid, and 7 other complex S compds. show that the method is very reliable with seldom a result varying over 0.3% from the truth. W. T. Hall

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

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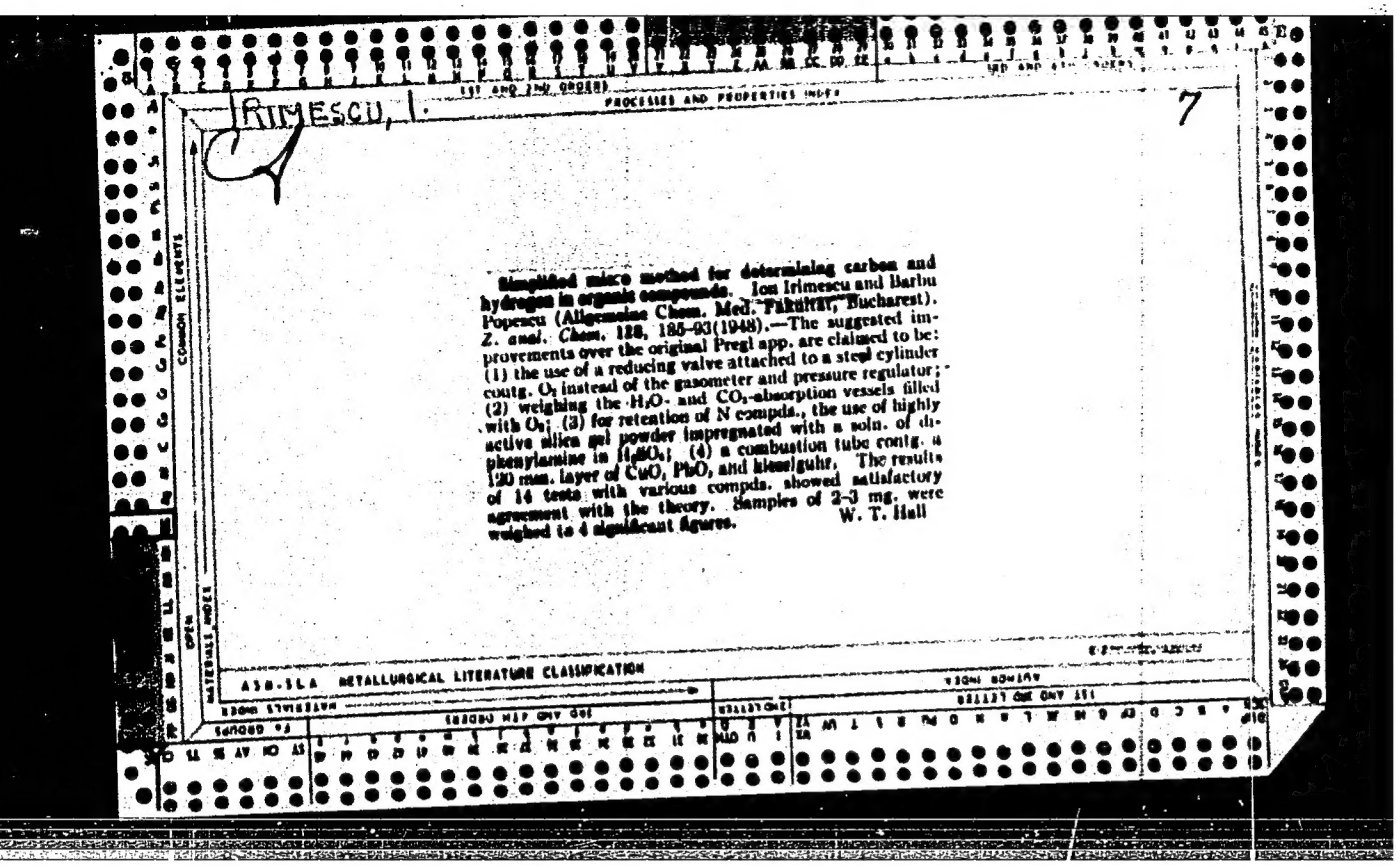

IRIMESCU, I.

7

Simplified micro method for determining carbon and hydrogen in organic compounds. Ion Irimescu and Barbu Popescu (Allgemeine Chem. Med. Fakultaet, Bucharest). *Z. anal. Chem.* 128, 185-93(1948).—The suggested improvements over the original Pregl app. are claimed to be: (1) the use of a reducing valve attached to a steel cylinder contg. O_2 instead of the gasometer and pressure regulator; (2) weighing the H_2O- and CO_2-absorption vessels filled with O_2; (3) for retention of N compds., the use of highly active silica gel powder impregnated with a soln. of diphenylamine in H_2SO_4; (4) a combustion tube contg. a 120 mm. layer of CuO, PbO, and Kieselguhr. The results of 14 tests with various compds. showed satisfactory agreement with the theory. Samples of 2-3 mg. were weighed to 4 significant figures.

W. T. Hall

A58-5LA METALLURGICAL LITERATURE CLASSIFICATION

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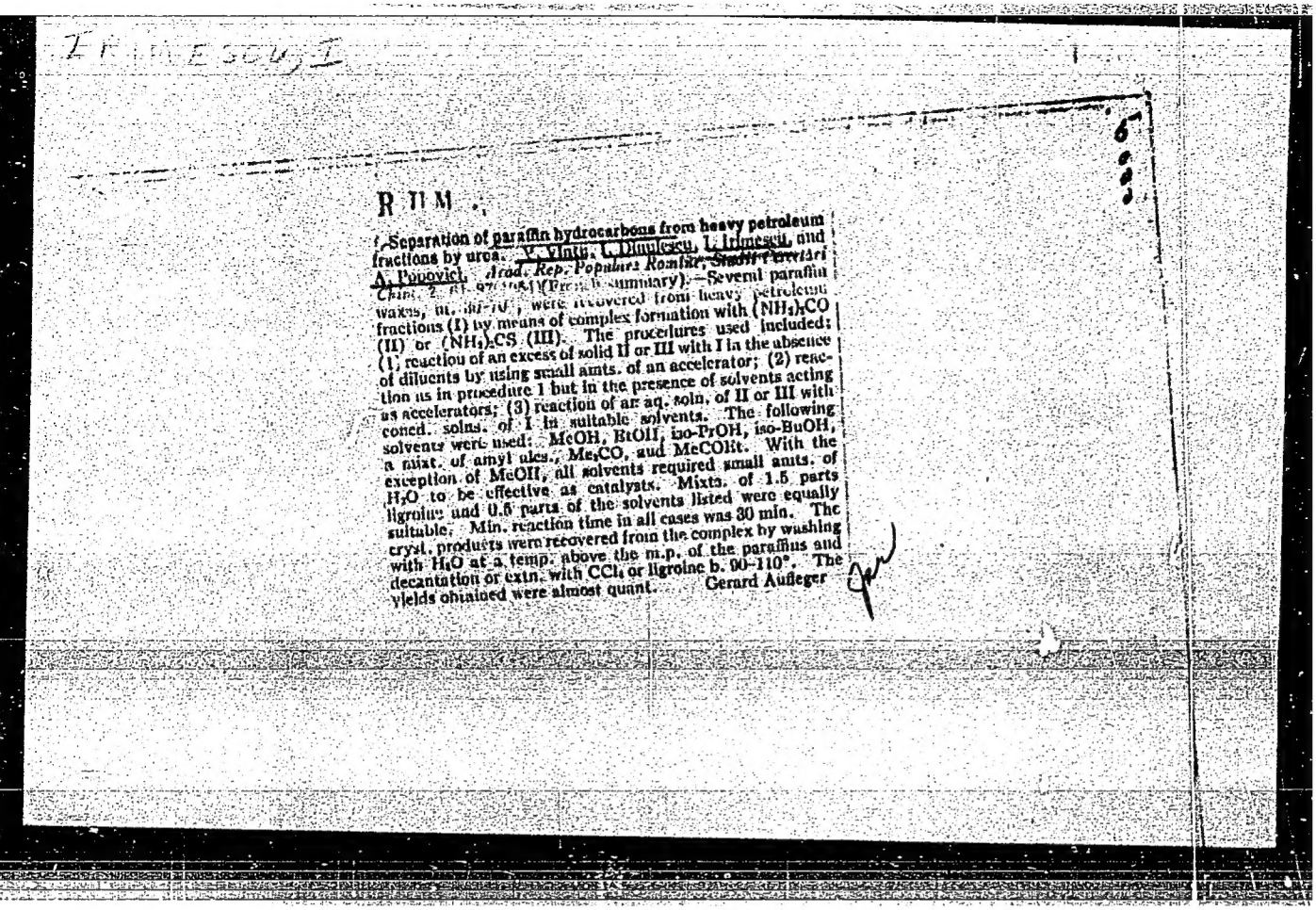

IRIMESCU, I

RUM

Separation of paraffin hydrocarbons from heavy petroleum fractions by urea. V. Vintu, I. Dinulescu, I. Irimescu, and A. Popovici. *Acad. Rep. Populare Romîne, Studii Cercetari Chim.* 2, 61-97(1954)(French summary).—Several paraffin waxes, m. 80-70°, were recovered from heavy petroleum fractions (I) by means of complex formation with $(NH_2)_2CO$ (II) or $(NH_2)_2CS$ (III). The procedures used included: (1) reaction of an excess of solid II or III with I in the absence of diluents by using small amts. of an accelerator; (2) reaction as in procedure 1 but in the presence of solvents acting as accelerators; (3) reaction of an aq. soln. of II or III with coned. solns. of I in suitable solvents. The following solvents were used: MeOH, EtOH, iso-PrOH, iso-BuOH, a mixt. of amyl alcs., Me_2CO, and MeCOEt. With the exception of MeOH, all solvents required small amts. of H_2O to be effective as catalysts. Mixts. of 1.5 parts ligroine and 0.5 parts of the solvents listed were equally suitable. Min. reaction time in all cases was 30 min. The cryst. products were recovered from the complex by washing with H_2O at a temp. above the m.p. of the paraffins and decantation or extn. with CCl_4 or ligroine b. 90-110°. The yields obtained were almost quant. Gerard Aufleger

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IRIMESCU, I.

2123. DETERMINATION OF THE ANTIOXIDANT PROPERTIES OF OXIDATION INHIBITORS. Irimescu, I. and Hitran, I. (Petrol si gaze (Petrol. & Gas, Bucharest), 1955, 6, 478-481; abstr. in Chem. Abstr., 1956, vol 50, 13420). A rapid laboratory method is proposed for determining the antioxidant value of oxidation inhibitors added to lubricating oils, based on the oxidation rate constant. Small amounts of oil are oxidized rapidly in a slightly modified Kröger apparatus and the oxygen-absorption curve is used in the calculation. Tests run with pure hydrocarbons, mixtures of hydrocarbons, and lubricating oils, by using Ao_2 and Ao_3 inhibitors, gave reproducible results within 10%. C.A.

Fuels 2

JFM LFH

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINESCU, L.

Determination of the value of antioxidants for inhibiting oxidation.
p. 421. Vol. 6, no. 9. Sept. 1955. PETROL SI GAZE. Bucuresti.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, No. 2. Feb. 1956.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Relative Motion of a Solid of Variable Mass

6810:

Irimiciuc, N. **Sur le mouvement relatif du solide dont la masse est variable.** Bul. Inst. Politehn. Iaşi (N.S.) 4(8) (1958), 113–120. (Romanian. Russian and French summaries)

"Dans cette note sont exposés les théorèmes généraux et les équations de mouvement d'un solide dont la masse est variable par rapport à un repère, mobile à son tour envers un système absolu, dans les hypothèses que le centre de masse change de position dans le solide, et que le système d'axes de coordonnées, invariablement lié au solide, soit quelconque." *Du résumé de l'auteur*

1-F\W

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PHASE I BOOK EXPLOITATION RUM/6332

Irimescu, Paul, Lieutenant Colonel, Engineer.

Telecomanda în tehnica militară (Remote Control in Military Techniques). [Bucharest] Editura militară [1962]. 162 p. (Series: Noutăţi tehnico-ştiinţifice). No. of copies printed not given.

Editor: Gheorghe Ardeleanu, Major, Engineer, Candidate of Technical Sciences; Resp. Ed.: D. Andreescu, Master in Engineering; Tech. Ed.: D. Andrei.

PURPOSE: This booklet is intended to convey to the reader some general idea about the use of remote control in military technique.

COVERAGE: The three chapters of this work cover the problems of automatic guidance, and the telecommunications employed in antiaircraft artillery, and in the guidance of rockets and unmanned aircraft, respectively. There are 74 figures and 3 references.

Card 1/4

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RANCU, N.; IRIMIE, V.; BOERIU, G.

Directing the manufacturing processes of assembling parts by statistical mathematical methods. Metrologia apl 10 no.7:289-297 Jl '63.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

BULANOV, V.Ya.; GRUSHENKO, V.K.; IRIMITSA, G.I.; MOKSHANTSEV, G.F.; PLUZHNIKOV, V.A.; SINYUKHIN, A.V.; TENYAKOV, P.T.

Preparing iron powder from alloyed scale reduced by converted natural gas. Poroshk. met. 5 no.10:2-4 O '65.

(MIRA 18:11)

1. Orenburgskiy filial Kuybyshevskogo politekhnicheskogo instituta.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINARKHOV, G. S.

29180 IRINARKHOV, G. S. I TOKAREV, N. M.

Regulirovanie zakhoda proizvoditeley na estestvennye nerestilishcha. Ryb. khoz-vo, 1949, No. 9, s. 27-28.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskov, 1949

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINARKHOV, G. S.

Fisheries

Volga-Caspian fishermen in the struggle for fulfillment of the plan, Ryb. khoz., 28 No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRIHARKHOV, N.S., inzhener.

Types of electric motors used as drive for the main equipment at cement mills. TSement 22 no.2:15-16 Mr-Ap '56. (MLRA 9:9)
(Cement industries) (Electric driving)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINARKHOVA, A.

For you, the workers of the food industry!. Okhr. turda i sotsial. strakh. 3 no. 12:60-62 D '60. (MIRA 13:12)

1. Zaveduyushchaya otdelom okhrany truda TSentral'nogo komiteta profsoyuza rabochikh pishchevoy promyshlennosti.
(Food industry--Employees)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

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ZOTOV, V.P.; SILUYANOV, V.G.; GUGINA, Ye.F.; AUERMAN, L.Ya.; ALEKHINA, M.S.; BEZZUBOV, A.D.; BODROV, V.A.; BUDNYY, A.V.; BURTSEV, Ye.L.; VAYNSHTEYN, V.O.; GAVRILOV, A.N.; GORBATOV, V.M.; GRITSENKO, N.N.; DOLGUSHEVA, L.I.; YEDYGENOV, K.Ye.; ZHURAVLEVA, S.S.; ZACHESKIN, Ya.A.; IVKIN, A.P.; IZOTOV, A.K.; IL'INSKIY, N.A.; IRINARKHOVA, A.M.; KARPENKO, A.K.; LYSOGOR, P.M.; LUPISH, A.T.; OLEYNIKOV, V.V.; ORANZHEREYEVA, V.F.; PETROV, N.A.; PYATIBRATOV, M.A.; ROMANOV, A.N.; RAUBE, P.V.; RYZHENKO, L.P.; SEMYKIN, A.A.; SHEFER, A.P.

G.IA.Ivanov; obituary. NTO 4 no.10:39 O '62. (MIRA 15:9)
(Ivanov, Georgii IAkovlevich, 1897-1962)

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BUKHARIN, Viktor Vladimirovich; IRINARKHOVA, A.M., retsenzent; YEVSEYEV, N.F., retsenzent; SAZYKIN, A.N., retsenzent; SERIK, A.P., red.

[Safety measures in the oils and fats industry] Tekhnika bezopasnosti v maslozhirovoi promyshlennosti. Moskva, Pishchevaia promyshlennost', 1964. 170 p. (MIRA 18:4)

1. TSentral'nyy komitet Profsoyuza rabochikh pishchevoy promyshlennosti (for Yevseyev). 2. Zaveduyushchiy laboratorii tekhniki bezopasnosti Vsesoyuznogo nauchno-issledovatel'skogo instituta zhirov (for Sazykin).

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IRINARKHOVA, A.M.; KLYUYKO, V.I.; KISELEV, A.P., otv. red.; SATAROVA, A.M., tekhn. red.

[Manual on labor protection, safety engineering and industrial hygiene in the food industry; collection of decrees, regulations and norms in three volumes] Spravochnik po okhrane truda, tekhnike bezopasnosti i proizvodstvennoi sanitarii v pishchevoi promyshlennosti; sbornik postanovlenii, pravil i norm v trekh tomakh. Moskva, Pishchepromizdat. Vols.2-3. 1963. (MIRA 16:11)
(Food industry--Safety measures)
(Food industry--Sanitation)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINARKHOVA, A.M.; KLYUYKO, V.I.; KISELEV, A.P., otv. red.; SATAROVA, A.M., tekhn. red.

[Manual on labor protection, safety engineering and industrial sanitation in the food industry; collection of resolutions, regulations and norms. In three volumes] Spravochnik po okhrane truda, tekhnike bezopasnosti i proizvodstvennoi sanitarii v pishchevoi promyshlennosti; sbornik postanovlenii, pravil i norm. V trekh tomakh. Moskva, Pishchepromizdat. Vol.1. 1963. 569 p.
(MIRA 16:9)

(Food industry--Safety measures)
(Food industry--Hygienic aspects)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINARKHOVA, T.M.

Complex teams of efficiency promoters. Izobr.v SSSR 3 no.1:39-40 Ja '58. (MIRA 11:1)

(Suggestion systems)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINCHEV, IVAN.

BULG.

Bulgaria's peppermint industry. II. The cultivation of peppermint in Bulgaria. Ivan Irinchev. *Perfumery Essent. Oil Record* 46, 42–5(1955); *cf. ibid.* 46, 240–51(1954). —A discussion of cultivation expts. leading up to the production of the oil known on world markets as Bulgaro-Mitcham oil. Physicochem. consts. of the oils obtained under various conditions are tabulated. F. M. B.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINCHEV, I.

"Selection of silkworms for producing healthy silkworm seed."

LEKA PROMISHLENOST. TEKSTIL., Sofiia, Bulgaria., Vol. 7, No. 11, 1958

Monthly list of EAST EUROPEAN ACCESSIONS (EEAI), LC, Vol. 8, No. 7, July 1959, Unclas

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINCHEV, If. Khr.; MAZHDRAKOV, P. D.

Prunus laurocerasus L. and its aromatic properties. Priroda Bulg 12 no. 5: 78-80 S-O '63.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINCHEV, Iv.Khr.; MAZHDRAKOV, P. D.

Garlic and its oil. Prir i znanie 16 no.9:20-21 N '63.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINCHEYEVA, S. S.: Master Med Sci (diss) -- "The histological picture of the nervous elements of the heart in myocardial infarct". Leningrad, 1958. 15 pp (Leningrad Pediatric Med Inst), 250 copies (KL, No 5, 1959, 156)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVA, N. G.

30996. IRINEVA, N. G. AND ZOBNINA, K. S.

Kislotnye gidrolizaty kak pitatel'nye sybstraty v proizvodstve dizenteriynogo bakteriofaga. Cbornik nauch. Trudor (Kazansk. in-t epidemiologii i mikrobiologii), Vyp. 1, 1949 na obl: 1948, s. 153-58 Bibliogr: 13 nazv.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVICH, P.I., inzh.

Durability of asphalt concrete. Avt. dor. 24 no.7:31 Jl '61. (MIRA 14:7)

(Asphalt concrete)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVICH, P.I., inzh.

Fine-grained sand in asphalt concrete. Avt. dor. 24 no.8:
12 Ag '61. (MIRA 14:9)
(Asphalt concrete) (Sand)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVICH, P.I., inzh.

Laying cement-concrete pavement at low temperatures. Avt.dor. 25 no.12:18-19 D '62. (MIRA 16:2)
(Pavements, Concrete)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVICH, P.I.

The crew is striving for high labor productivity. Avt.dor. 26 no.4:8-9 Ap '63. (MIRA 16:4)
(Road construction—Labor productivity)

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINEVICH, P.I., inzh.

Safety white concrete borders. Avt.dor. 26 no.9:6-7 S '63.
(MIRA 16:10)

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IRING, M. [Iring, Margit] (Budapest, XI., Feherveri ut 120);
TYUDYESH, F. [Tudos, Ferenc], dr. (Budapest, II., Pusztaszeri ut 57/69);
TELEKI, P. [Teleki, Piroska] (Budapest, II., Pusztaszeri ut 57/69)

Polymerization of styrene initiated by sulphinic acid. I.
Acta chimica Hung 35 no.3:281-296 '63.

1. Chlen, Redaktsionnaya kollegiya, "Acta Chimica Academiae Scientiarum Hungaricae," (for Tudos).

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRING, Rezsone; TUDOS, Ferenc; TELEKI, Piroska

Initiated polymerization of styrol by sulfinic acid. I. Polymerization of styrol in the presence of p-toluolsulfinic acid as well as of benzoyl peroxide-p-toluolsulfinic acid system. Magy kem folyoir 66 no. 10:415-422 O '60.

1. Kabel- es Muanyaggyar Kozponti Laboratorium, Budapest; Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezete, Budapest; es Budapesti Muszaki Egyetem Muanyag- es Gumiipari Tanszeke.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

33407

H/005/62/000/002/001/001
D283/D304

15.8110

AUTHORS: Iring, Rezsö and Tüdös, Ferenc

TITLE: Polymerization of styrene initiated with sulfinic acid. II. Polymerization in the presence of a system of benzoyl-peroxide-intermetallic compound of different valencies-p-toluene sulfinic acid

PERIODICAL: Magyar kémiai folyóirat, no. 2, 1962, 86-92

TEXT: After a brief review of data contained in the first article of the series, the authors describe their experiments with polymerization of styrene carried out to determine the suitability of p-toluene sulfinic acid as a reducing agent in a system of benzoyl-peroxide and an intermetallic compound of different valencies. Data contained in the article have been taken from Mrs. Iring's dissertation for the degree of Candidate. The authors examined the polymerization of styrene with benzoyl-peroxide + copper acetyl acetonate + p-toluene sulfinic acid and with benzoyl-peroxide + iron acetyl acetonate + p-toluene sulfinic acid. The experiments proved

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that polymerization when initiated with the benzoyl-peroxide + copper-acetyl acetonate + p-toluene sulfinic acid does not depend on the concentration of p-toluene sulfinic acid. In case of variable p-toluene sulfinic acid concentration, the kinetic curves show the typical form of the "dead end" polymerization after a constant initial velocity, while the limit of conversion (x_{lim}) is in direct ratio to the square root of the p-toluene sulfinic acid concentration. The square of the initial velocity of polymerization is also in direct ratio to the copper acetyl acetonate concentration. The experimental results also proved that while the polymerization velocity increases with an increase of catalyst concentration, the limit of the obtainable final conversion decreases at the same time. According to

$$\log(x_{lim} - x) = \log x_{lim} - \frac{k' i}{4.6} t \qquad (8)$$

the value of $\log (x_{lim} - x)$ decreases linearly with the time. The directional tangent of the set of curves is in direct ratio to the initial concentration of the catalyst.

$$tg \alpha = \frac{k' i}{4.6} = \frac{ki \left[\text{copper acetyl acetonate}\right]_0}{4.6} \qquad (9)$$ which indicates that

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Polymerization of styrene ...

the process of initiation is bimolecular. In case of the benzoyl-peroxide + iron acetyl acetonate + p-toluene sulfinic acid system the increase of polymerization velocity is noticeable which is not the case with the benzoyl-peroxide + copper acetyl acetonate + p-toluene sulfinic acid system. The polymerization velocity decreases with the increase of the iron acetyl acetonate concentration, while the molecular weight increases. The intermetallic compounds used in the experiments were supplied by the Központi kémiai kutató intézet polimerizáció kinetikai csoportja (Polymerization Kinetics Team of the Central Chemical Research Institute). There are 14 figures, 5 tables and 5 references: 2 Soviet-bloc, 1 non-Soviet-bloc and 2 unidentified. The reference to the English-language publication reads as follows: A.V.Tobolsky: J.Amer.Soc., 80, 5927, 1958. [Abstracter's note: 2 unidentified references refer to German-language publications; it was not possible to establish whether they are East or West German.]

ASSOCIATION: Kábel - és müanyaggyár, központi laboratórium (Cable and Synthetic Material Plant, Central Laboratory) (Iring); Magyar tudományos akadémia központi kémiai kutató intézete (Central Chemical Research Institute of the Hungarian Academy of Sciences) (Tüdös)

Card 3/3

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

35812

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D249/D302

15.8100

AUTHORS: Iring, Rezsöné, and Tüdös, Ferenc

TITLE: Polymerization of styrene, initiated by sulphinic acid. III

PERIODICAL: Magyar kémiai folyóirat, no. 4, 1962, 149 - 151

TEXT: The effect of ethanol was investigated on the polymerization of styrene, initiated by the system p-toluene-sulphinic acid + benzoyl peroxide. It was found that a relatively small quantity of alcohol (3 - 5 %), which would not effect the rate of thermal or benzoyl peroxide, initiated polymerization and increased the rate of polymerization to a considerable extent. The curve indicating the rate of polymerization as a function of the concentration of alcohol passes through a maximum. This phenomenon is interpreted as due to the association of p-toluene-sulphinic acid when dissolved in alcohol. As a result of association the rate of monomolecular decomposition of p-toluene-sulphinic acid increases. Simultaneously the rate of reaction between p-toluene-sulphinic acid and benzoyl peroxide increases as well. The experimental data are presen-

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Polymerization of styrene, ...

ted in tables and as kinetic curves. There are 3 figures, 2 tables and 3 references: 2 Soviet-bloc and 1non-Soviet-bloc. The reference to the English-language publication reads as follows: W.G. Wright, J. Chem. Soc., 1919, 683.

ASSOCIATION: Budapest, kabél-és műanyaggyár (Factory of Cables and Plastics, Budapest)

SUBMITTED: August 3, 1961

X

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ALEKSEYEV, I.; IRININ, A.

Factory of pretty smiles. Tekh.mol. 31 no.5:16 '63.
(MIRA 16:6)
(Dentistry, Operative) (Transplantation of organs, tissues, etc.)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRININ, A.M.; GRECHIN, V.P.; TUCHKEVICH, N.M.

Effect of the rate of metal flow during vacuum arc refining on the properties of heat-resistant alloys. Stal' 23 no.2:133-135 F '63. (MIRA 16:2)
(Heat-resistant alloys--Electrometallurgy)
(Vacuum metallurgy)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ACCESSION NR: AP4001631 S/0133/63/000/012/1091/1093

AUTHOR: Irinin, A. M.; Grechin, V. P.

TITLE: Effect of magnetic and electric conditions in vacuum arc melting on the quality of heat-resistant alloy ingots

SOURCE: Stal', no. 12, 1963, 1091-1093

TOPIC TAGS: vacuum arc melting, heat resistant alloy, alloy ingot, ingot macrostructure, ingot surface quality, magnetic stirring, vacuum degassing

ABSTRACT: A study has been made of the effect of melting conditions in vacuum-arc melting on the quality of heat-resistant nickel-base alloys. Conditions tested included current, which was varied from 1200 to 2300 amp and intensity of magnetic stirring, which was varied by changing the ampere turns of the solenoid from 0 to 200. It was found that under all conditions tested the application of a magnetic field increases the melting rate. At 1200 amp and 200 amp-turns/cm, it reaches 13.5 g/sec (compared to 9 g/sec with no field). Ingots melted without a magnetic field and with 1200 amp current were found

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ACCESSION NR: AP4001631

to have an unsatisfactory surface, while those melted with a magnetic field of moderate intensity had a good surface. At 1600 or 2300 amp, the difference in surface quality was less pronounced. Ingots melted without a magnetic field had a columnar macrostructure, while those melted with a moderate (100 amp-turns/cm) or strong (200 amp-turns/cm) field had a fine-grained structure. However, ingots made at 1200 or 1600 amp and 200 amp-turns/cm were porous, especially in the lower sections. No defects were observed in ingots melted at 2300 amp. In all ingots the application of a magnetic field of 100 amp-turns/cm improved the rupture life by 25—80%. The effect of a strong field (200 amp-turns/cm) was found to depend upon the amperage: at 1200 amp, the strong field had a detrimental effect; at 1600 amp, no effect; and at 2300 amp, a beneficial effect. The moderate and strong fields did not affect the tensile and yield strengths at 200 and 900C, but reduced ductility by approx 20%. Pouring the metal in vacuum had a beneficial effect on rupture life and ductility. Orig. art. has: 4 figures and 1 table.

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APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRININ, I.

True stories. Fin. SSR 37 no.10:80-81 O '63. (MIRA 17:2)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRININ, I.

True stories. Fin. SSSR 38 no.1:77-78 Ja '64. (MIRA 17:2)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

KAPLAN, M. (Sevastopol'); IRININ, Yu. (Moscow).

Notes of participants in the 6th All-Union competition of short-wave operators, members of the All-Union Volunteer Society for Assistance to the Army, Aviation and Navy. Radio no.6:21-22 Je '53. (MLRA 6:6)
(Radio, Short-wave--Competitions)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRININ, YU.

USSR/Miscellaneous

Card 1/1 Pub. 89 - 14/28

Authors : Irinin, YU.

Title : About acknowledgment cards

Periodical : Radio 4, 26-27, Apr 1955

Abstract : The use of a receipt card system in an amateur two-way radio communication is discussed. The cards serve as means of identifying the type of equipment, frequency, etc., used by the amateur radio operator, and acknowledge the transmission of signals to specified radio stations. Illustrations.

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRIAKOV, S.
IRINKOV, S. Normal work of the SE-3 dredge in our open mines. p. 42.

Vol. 11, No. 5, Sept./Oct. 1956.
MINNO DELO
TECHNOLOGY
Sofiia, Bulgaria

So: East European Accession, Vol. 6, No. 3, March 1957

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINKOV, S.

"Electric-machines automation in the mining industry."

MINNO DELO, Sofiia, Bulgaria; Vol. 14, No. 1, Jan./Feb., 1959

Monthly list of EAST EUROPEAN ACCESSIONS INDEX (EEAI), Library of Congress, Vol. 8, No. 8, August, 1959

Unclassified

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINKOV, St., inzh.

Load of a single-ladled excavator during the operation, and possibilities of increasing size of the ladles. Min delo 17 no.1:25-27 Ja '62.

1. Gl. mekhanik na Durzhavno minno predpriiatie "Bolshevik," Sofia region.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRINKOV, St., inzh.

Computation of electric loads for open pit mining. Min delo 18 no.3:13-17 '63.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRI'YI, Janos,okl,vegyeszmernok

Calculation of lime quantity necessary for the decarbonization of raw water. Energia es atom 15 no.2:75-82 F '62.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISMUKHAMEDOVA, F.K. (Tashkent 20, Ul'mas proyezd, d.13); MIRZOYEVA, I.I., starshiy nauchnyy sotrudnik

Change in the angle of deviation of the femoral neck following treatment of congenital hip dislocation by the Pacci-Lorentz method. Ortop., travm. i protez. 26 no.1:64-70 Ja '65. (MIRA 18:5)

1. Iz Detskogo ortopedicheskogo instituta imeni G.I. Turnera (dir. - prof. M.N. Goncharova).

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

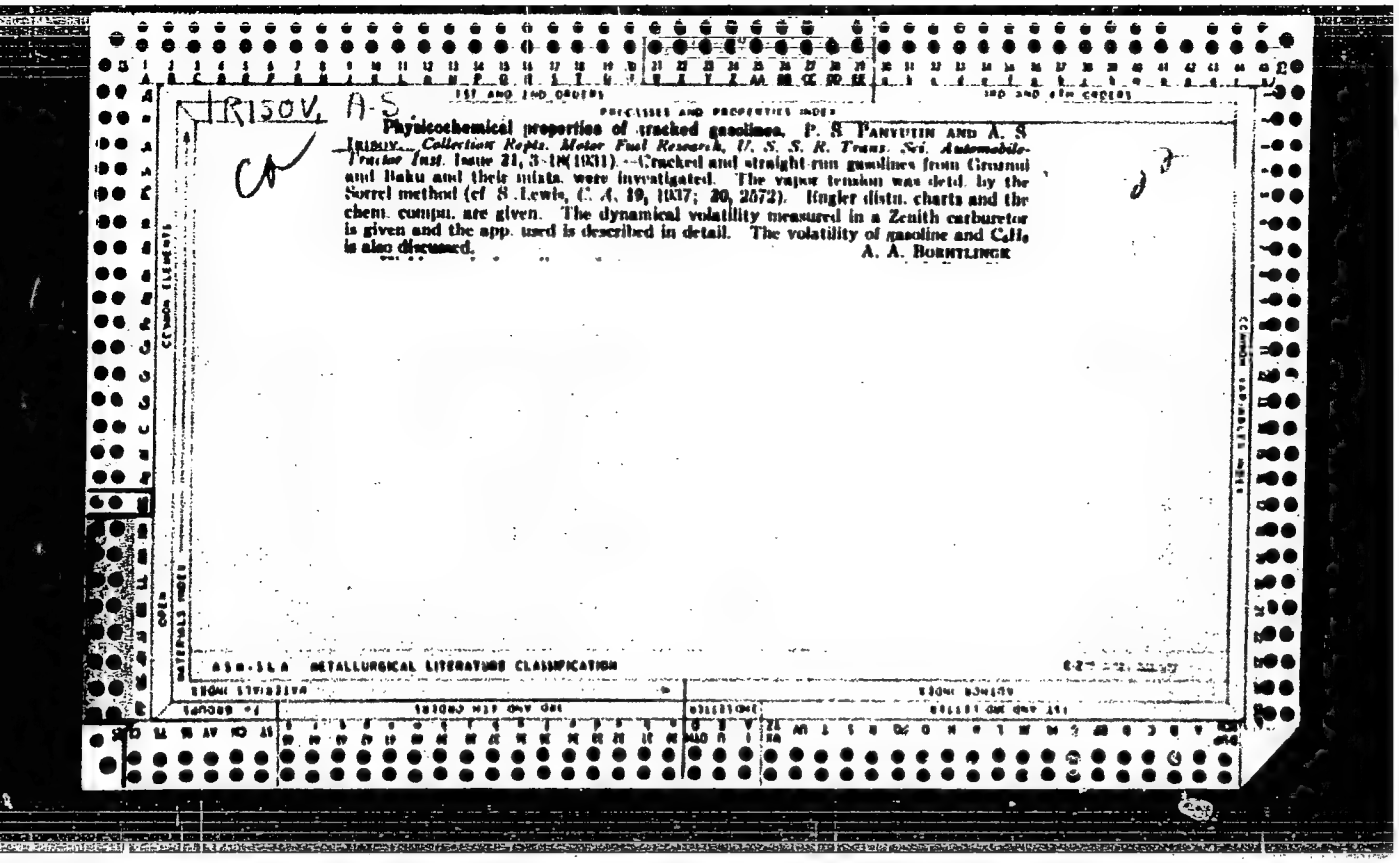
"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, A., professor.

New gasolines for automobiles. Avt.transp. 35 no.4:16-17 Ap '57.
(MLRA 10:5)
(Motor fuels)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873



R150V, A-5

Physicochemical properties of cracked gasolines. P. S. Panyutin and A. S. [illegible]. *Collection Repts. Motor Fuel Research, U. S. S. R. Trans. Sci. Automobile-Tractor Inst.* Issue 21, 3–19(1931).—Cracked and straight-run gasolines from Grozny and Baku and their mixts. were investigated. The vapor tension was detd. by the Sorrel method (cf. S. Lewis, C. A. 19, 1837; 30, 2572). Engler distn. charts and the chem. compn. are given. The dynamical volatility measured in a Zenith carburetor is given and the app. used is described in detail. The volatility of gasoline and C_6H_6 is also discussed.

A. A. Bortlinger

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, A. S. Prof.

"Knock-Resistant Fuel and Engine Efficiency," Avto. Prom., No.4, 1948

Dir., Physics Dept., Faculty Engineering, Sov. Air Engineering Acad. im. Zhukovskiy.

Fuels and Lubricants Lab., Air Force Sci. Res. Inst.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

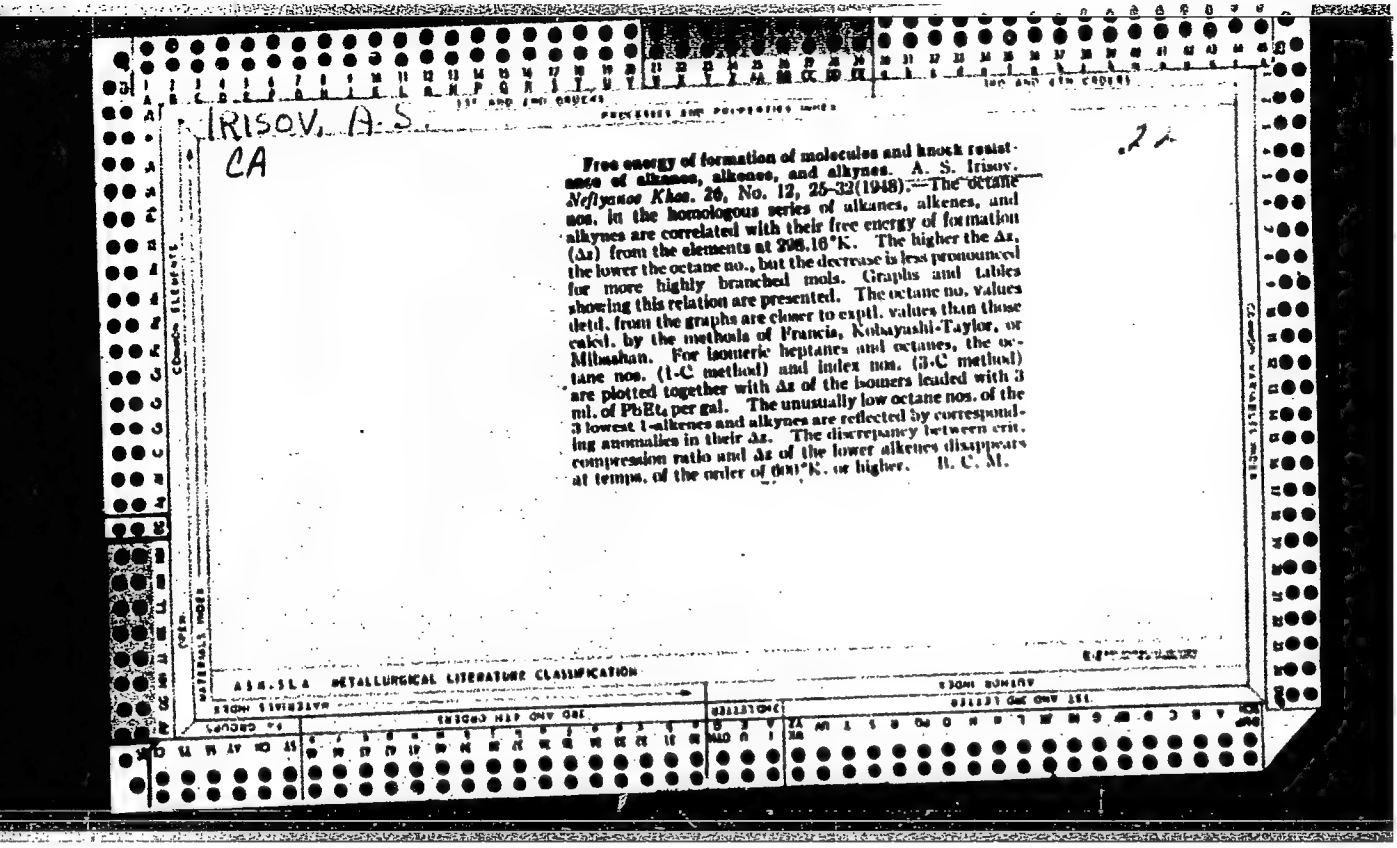
IRISOV, A. [3]

42377: IRISOV, A. Novye avtomobil'nye benziny. Avtomobil', 1948, No. 11 s. 17-18

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873



IRISOV, A.S.
CA

Free energy of formation of molecules and knock resistance of alkanes, alkenes, and alkynes. A. S. Irisov. *Neftyanoe Khoz.* 26, No. 12, 25-32(1948).—The octane nos. in the homologous series of alkanes, alkenes, and alkynes are correlated with their free energy of formation (Δz) from the elements at 298.16°K. The higher the Δz, the lower the octane no., but the decrease is less pronounced for more highly branched mols. Graphs and tables showing this relation are presented. The octane no. values detd. from the graphs are closer to exptl. values than those calcd. by the methods of Francis, Kobayashi-Taylor, or Mitsuhan. For isomeric heptanes and octanes, the octane nos. (1-C method) and index nos. (3-C method) are plotted together with Δz of the isomers leaded with 3 ml. of $PbEt_4$ per gal. The unusually low octane nos. of the 3 lowest 1-alkenes and alkynes are reflected by corresponding anomalies in their Δz. The discrepancy between crit. compression ratio and Δz of the lower alkenes disappears at temps. of the order of 600°K. or higher. H. C. M.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

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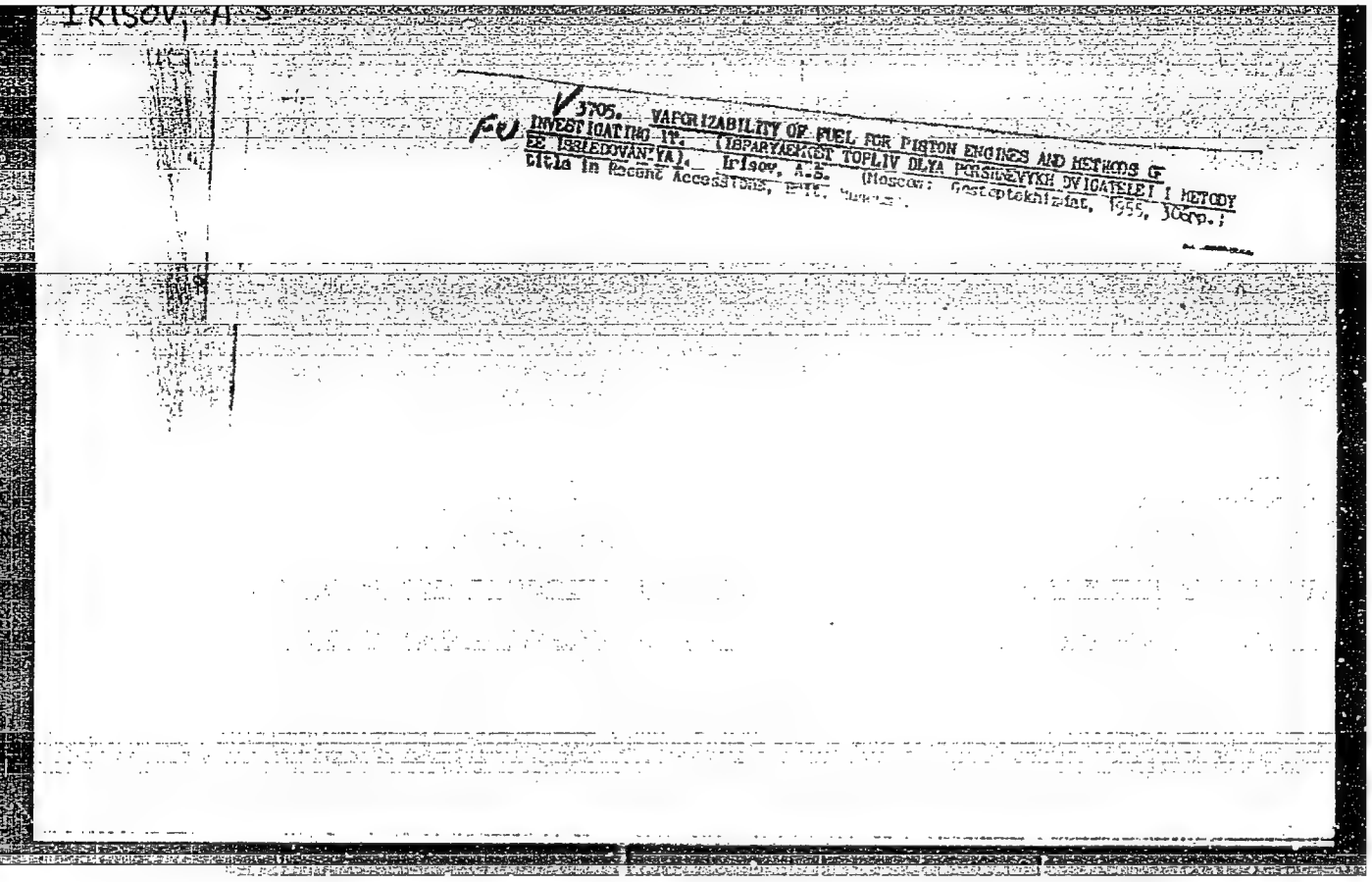

IRISOV, A.S.

FU 3705. VAPORIZABILITY OF FUEL FOR PISTON ENGINES AND METHODS OF INVESTIGATING IT. (ISPARYAEMOST TOPLIV DLYA PORSHNEVYKH DVIGATELEI I METODY EE ISSLEDOVANIYA). Irisov, A.S. (Moscow: Gostoptekhizdat, 1955, 306pp.; title in Recent Accessions, [illegible]

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

PHASE I BOOK EXPLOITATION SOV/3824

Irisov, Aleksandr Sergeyevich, and Nadezhda Ivanova Itinskaya

Toplivo i smazochnyye materialy (Fuel and Lubricants) Moscow, Sel'khozgiz, 1959. 369 p. (Series: Uchebniki i uchebnyye posobiya dlya vysshikh sel'skokhozyaystvennykh uchebnykh zavedeniy) 10,000 copies printed.

Eds.: B.Ya. Letnev and G.V. Krzhizhanovskaya; Tech. Ed.: Z.P. Zubrilina.

PURPOSE: This book is intended for students concerned with the mechanization of agriculture. It may also be useful to agricultural engineers and technicians engaged in the utilization, storage and transportation of petroleum products.

COVERAGE: The book reviews basic properties of solid and aqueous fuels used in agriculture and describes methods of refining petroleum to produce automobile, tractor and diesel fuels and lubricants. Straight-run distillation and chemical conversion of petroleum are briefly covered. The fractional composition of various petroleum products is given. Combustion of fuel in carburetor and diesel engines is explained with stress laid on the prevention of gum formation and elimination of knock. The use of gaseous fuels and liquefied gases is discussed.

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There is a chapter on the production of lubricants, their viscosity, aging and reclaiming. Another chapter covers the range of commercial fuels, lubricants and greases along with their additives and special fluids used as cooling agents. The handling of petroleum products in agricultural organizations is described and measures taken to reduce the loss of petroleum products during their storage, transportation and use are outlined. The chapter "Special Fluids" discusses the properties of water used for technical purposes and liquids used in hydraulic jacks, brakes and shock absorbers and in cooling internal combustion engines. No personalities are mentioned. There are 41 Soviet references.

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Ch. I. General Information on Fuel 7
1. Classification of fuels 7
2. Utilization of various types of fuels in agriculture 9
3. Combustible and incombustible fuel fractions 9
4. Selection of an average fuel sample 11
5. Calorific value of different types of fuel 14
6. Analysis of the composition of combustion products 22

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, E.A.

Sandpipers in the upper Bashkaus Valley (southeastern Altai).
Ornitologiia no.7:470-471 '65. (MIRA 18:10)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, E.A.

Recent data on the distribution of some birds in the south-eastern Altai. Izv. Alt. otd. Geog. ob-va SSSR no.5:154.156 '65. (MIRA 18:12)

1. Biyskiy krayevedcheskiy muzey.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, Ye.A.

Self-oscillations in a reflex klystron equipped with an additional high-Q resonator. Nauch.dokl.vys.shkoly; radiotekh. i elektron. no.2: 74-83 '58. (MIRA 12:1)

1. Kafedra fiziki Udmurtskogo pedagogicheskogo instituta.
(Klystrons)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

9(4)

AUTHORS: Irisov, Ye.A. and Khokhlov, R.V. SOV/55-58-2-18/35

TITLE: On an Autogenerator Loosely Coupled to a High-Q Circuit (Ob avtogeneratore, slabo svyazannom s vysokodobrotnym konturom)

PERIODICAL: Vestnik Moskovskogo Universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 2, pp 137-143 (USSR)

ABSTRACT: The behavior of an autogenerator loaded by a circuit is described by a system of equations which cannot be solved in the general case. For the determination of the phugoid motions of the considered system the authors propose a method which can be applied, if the connection (in the sense of Metropol'skiy) between the circuits is weak and, if the external circuit (loading the generator) is of essentially higher quality than the internal circuit. Under these suppositions the general system changes into a system possessing small parameters for the derivatives and which can be solved according to the methods of A.N. Tikhonov, I.S. Gradshteyn, L.S. Pontryagin etc.
The first investigations of phugoid motions of the considered systems are due to S.M. Rytov, A.M. Prokhorov, M.Ye. Zhabotinskiy [Ref 1] and Yu.B. Kobzarev [Ref 2].

Card 1/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

On an Autogenerator Loosely Coupled to a High-Q Circuit SOV/55-58-2-18/35

There are 2 figures, and 8 Soviet references.

ASSOCIATION: Kafedra teorii kolebaniy (Chair of Oscillation Theory) [Moscow Univ.]

SUBMITTED: June 26, 1957

Card 2/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

SOV/58-59-9-20830

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 9, pp 198 - 199 (USSR)

AUTHOR: Irisov, Ye.A.

TITLE: On Self-Oscillations in a Reflex Klystron That is Weakly Coupled With a High Q-Factor Resonator

PERIODICAL: Uch. zap. Udmurtsk. gos. ped. in-ta, 1958, Nr 12, pp 72 - 82

ABSTRACT: A theoretical study is made of self-oscillations in a reflex klystron that is weakly coupled with a high Q-factor resonator. The specified system is treated as a system with two degrees of freedom. The steady states and their stabilities are analyzed by the method of slowly-varying amplitudes. The author studies the mistuning dependence and the transit-angle dependence of the frequency and amplitude of the oscillations that are being generated.

From the author's résumé

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APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOV, Ye. A., Candidate Phys-Math Sci (diss) -- "Autooscillations in a reflex klystron with a supplementary high-Q resonator". Izhevsk, 1959. 11 pp (Min Higher Educ USSR, Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Phys Faculty), 200 copies (KL, No 24, 1959, 125)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Irisova, N. A.

USSR/ Physics - Spectral analysis

Card 1/1 Pub. 43 - 7/62

Authors : Irisova, N. A.

Title : Radiospectroscopic study of molecules

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, page 663, Nov-Dec 1954

Abstract : Brief account was presented on the aperture required for the radiospectroscopic study of rotating spectra of molecules, on Soviet manufactured radiospectroscopes with a sensitivity of 2.10^{-8} cm^{-1} and on results obtained by measuring frequencies and line intensities of an ultra-thin structure.

Institution : Acad. of Sc., USSR, The P. N. Lebedev Phys. Inst.

Submitted : .....

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOVA, N.A.
USSR/Electronics - Klystrons FD-2441

Card 1/1 Pub 90-3/11

Author : Irisova, N. A., Zhabotinskiy, M. Ye., Veselago, V. G.

Title : Frequency stabilization of a three-centimeter klystron with the aid of a spectrum line

Periodical : Radiotekhnika, 10, 26-35, Apr 55

Abstract : A system for stabilizing klystron oscillator frequencies with the aid of the absorption spectrum line of some gas is explained. Gases used for this purpose should have an absorption line which is resonant with the frequency of waves generated by klystrons (centimeter and millimeter). The most effective absorption lines in the centimeter frequency range are those of ammonia gas. Frequency stabilization can be carried either in the region of the fundamental spectrum line, or in the region of its second and third harmonics. Theoretical analysis of this system, basic formulas for calculations; and the characteristics of the experimental model are discussed. The research was conducted at the Physics Institute, Academy of Sciences USSR in 1950-1951. M. A. Leontovich and A. M. Prokhorov are given thanks for advice.

Institution: --

Submitted : June 1, 1954

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOVA, V.A.

ZHABOTINSKIY, M.Ye.; IRISOVA, N.A.; RYTOV, S.M.

Effect of variable-frequency signals on a linear resonance system. Trudy Fiz.inst. 8:3-12 '56. (MLRA 10:3)
(Radio frequency modulation)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOVA, N.A.

AUTHOR: Veselago, V.G. and Irisova, N.A. 109-4-13/20

TITLE: A Modulation System for Stabilizing the Frequency of a Reflex Klystron by means of a Cavity Wavemeter. (Modulyatsionnaya skhema stabilizatsii chastoty otrazhatelnogo klistrona pri pomoshchi obyemnogo volnomera)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.2, No.4, pp. 484 - 487 (USSR).

ABSTRACT: The system described can be operated at a constant frequency or a variable frequency (a sweep generator). It consists of a klystron, a modulator operating at 900 kc/s, a waveguide section, a resonant 900 kc/s amplifier, a synchronous detector, a crystal detector and a cavity wavemeter (with a small motor revolving at 2 r.p.m.). Some of the power from the klystron is fed to the cavity resonator and a small signal (0.01 V) of 900 kc/s is applied to the reflector of the klystron which is thus frequency-modulated. If the klystron output signal lies within the pass-band of the cavity wavemeter, the crystal detector will pick up an amplitude-modulated (900 kc/s) signal, except when the klystron frequency is equal to the resonant frequency of the cavity. Output signal of the detector is applied to the synchronous detector (via the resonant amplifier), where it produces an "error signal". The "error" voltage

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

109-4-13/20

A Modulation System for Stabilising the Frequency of a Reflex Klystron by means of a Cavity Wavemeter.

is applied to the reflector of the klystron and in this way its frequency is locked-in with the wavemeter. The motor is employed to tune the cavity wavemeter, so that its frequency will change periodically and thus re-tune the klystron. The tuning ranges (with a stable klystron frequency) of up to 60 Mc/s could be obtained without any mechanical adjustments of the klystron. The system had a stabilisation coefficient of about 100. A detailed circuit diagram of the synchronous detector (with amplifier) is given (Fig.5) and its operation is discussed in detail.
There are 6 figures (1 block schematic) and 4 references, of which 3 are Slavic.

SUBMITTED: August 6, 1956.

AVAILABLE: Library of Congress.

Card 2/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Sov/51-4-4-24/24

AUTHOR: Irisova, N.A.

TITLE: Radiospectroscopic Study of CH_3GeCl_3 (Radiospektroskopicheskoye issledovaniye CH_3GeCl_3)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 4, pp 543-546 (USSR).

ABSTRACT: The author obtained the absorption spectrum of methyltrichlorogermane (CH_3GeCl_3) in the region from 9 000 to 26 000 Mc/s. Measurements were made using a radiospectroscope with electrical molecular modulation. Stabilisation of the klystron frequency was described in Ref 2. Absorption was observed at 0 and -30 °C at saturation vapour pressures of CH_3GeCl_3 corresponding to these temperatures. The radiowave spectrum of CH_3GeCl_3 is rich in lines due to a large number of isotopic combinations (e.g. due to Cl^{35} and Cl^{37} isotopes) and due to complex hyperfine structure caused by the presence of three chlorine atoms, which possess quadrupole electric moments. Spectrograms of the transitions $J = 2 \rightarrow 3$, $J = 4 \rightarrow 5$, $J = 5 \rightarrow 6$, $J = 7 \rightarrow 8$ were obtained. Separate components

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Radiospectroscopic Study of CH_3GeCl_3

due to the fine structure due to the isotopes of Ge and the hyperfine structure of the Cl atoms were not resolved. Figure 1 shows the spectrogram for the $J = 4 \rightarrow 5$ transition for $CH_3GeCl_3^{35}$. Figure 2 shows the spectrum of the same transition for $CH_3GeCl_2^{35}Cl^{37}$ and $CH_3GeCl^{35}Cl_2^{37}$. For the absorption lines of the symmetrical-top molecule $CH_3GeCl_3^{35}$, the mean frequencies and line widths were measured. They are given in the table on p 545 . This table gives also values of the rotational constant B calculated from the measured absorption frequencies. These values were found to differ from the mean value of B by not more than 0.4 Mc/s. From this, the author deduces that the asymmetry in line splitting and the effect of centrifugal perturbation are not very great. The frequencies calculated using the mean value of B differ from the measured frequencies by no more than $\pm$ 5 Mc/s.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Radiospectroscopic Study of CH_3GeCl_3 Sov/51-4-4-24/24

There are 2 figures, 1 table and 2 Soviet references

ASSOCIATION: Fizicheskiy institut imeni P.N. Lebedeva AN SSSR (Physics Institute imeni P.N. Lebedev, Ac.Sc.USSR)

SUBMITTED: October 8, 1957

1. Chlorides--Spectrographic analysis

Card 3/3

USCOMM-DC-55915

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

SOV/48-22-11-5/53

24(7)
AUTHOR: Trifonova, N. A.

TITLE: Determination of the Rotation Constants of CH_3GeCl_3 From Its Super-High-Frequency Absorption Spectrum (Opredeleniye vrashchatel'nykh postoyannykh CH_3GeCl_3 iz yego sverkhvysokochastotnogo spektra pogloshcheniya)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol 22, Nr 11, pp 1503-1507 (USSR)

ABSTRACT: In the lecture, data of the preliminary investigation of the absorption spectrum of CH_3GeCl_3 published in reference 1 were explained together with new results of determination of the rotation constansts A and C. In order to find A and C, the absorption spectra of the compounds $CH_3GeCl_2^{35}Cl^{37}$ and $CH_3GeCl^{35}Cl_2^{37}$ were taken. The conditions under which the experiment was carried out were the same as in a previous experiment (Ref 1). Because of low line intensity of $CH_3GeCl^{35}Cl_2^{37}$ the accuracy of measuring amounted to only ± 15 Mc. In order to determine the

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

Determination of the Rotation Constants of CH_3GeCl_3 From Its Super-High-Frequency Absorption Spectrum

rotation constants, the frequencies and intensities of all $(2J + 1)$ components of each J-transition examined were plotted. The diagrams showed that the average frequencies of the lines observed agree with the frequencies of the following components of the transitions within the limits of experimental errors: $2_{12} \rightarrow 3_{22}$, $4_{14} \rightarrow 5_{24}$, $5_{14} \rightarrow 6_{26}$, $7_{26} \rightarrow 8_{36}$. Thereupon, by the method of series expansion, those A, B, C-values were found the calculated frequency values of corresponding transitions of which agreed with experimental values. For the compound $C^{12}H_3Ge^{74}Cl_2^{35}Cl^{37}$ the following values were obtained: A = 1585 ± 2 Mc, B = 1567 ± 2 Mc, C = 1192 ± 25 Mc. The inaccurate determination of C is due to the fact that the structure of the molecule is similar to the symmetric gyroscope. The author thanks A. M. Prokhorov for discussing the problem. There are 1 table and 1 reference, which is Soviet.

Card 2/2

Physics Inst. im P. N. Lebedev, AS USSR

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

IRISOVA, N.A.; DIANOV, Ye.M.

Ultrahigh frequency absorption of CH_3GeF_3. Opt. i spektr. 9 no.2: 261 Ag '60. (MIRA 13:8)

(Germanium compounds—Spectra)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 2994-66

ACCESSION NR: AP5021348

UR/0120/65/000/004/0140/0143
535.853.3-14

30
B

AUTHORS: Dianov, Ye. M.; Irisova, N. A.; Prokhorov, A. M.

TITLE: An arrangement for measuring the coefficients of reflection and transparency of substances operating in monochromatic radiation in the millimeter and submillimeter range

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 140-143

TOPIC TAGS: short wave radiation, reflected radiation, transmission, glass, plexiglass, polystyrene/K8 glass

ABSTRACT: The authors describe a setup for producing monochromatic radiation in the range of 1—4 mm, designed for measuring the coefficients of reflection and transparency. An electron tube operating in the desired range transmits its radiation along a metallic waveguide to a multiplier head of semiconducting material. The mouth of this device is at the focus of a spherical mirror. The radiation is then directed to a diffraction grating. Depending on the purpose of the experiment, the radiation may then be reflected from another spherical mirror into various optical systems. The principal design of the setup is illustrated in Fig. 1

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 2994-66

ACCESSION NR: AP5021348

of the Enclosure. The setup makes possible the production of radiation in either converging or parallel beams, and the use of dielectric waveguides permits the radiation to be transmitted to distances of several meters from the device. Preliminary measurements were made on the transparency and reflection of several substances. Coefficients of absorption were found to be $6.8 \cdot 10^{-3}$ and $3.0 \cdot 10^{-2}$ for plexiglass and K-8 glass, respectively, for a wavelength of 2 mm. "The authors thank Ye. N. Bol'shakov for his aid in building the device, Ye. A. Vinogradov for useful discussions, and L. K. Kiselev for participating in the work of setting up the equipment and for adjusting the radio engineering apparatus." Orig. art. has: 3 figures and 1 formula. [04]

ASSOCIATION: Fizicheskiy institut AN SSSR, Moscow (Physical Institute, AN SSSR)

SUBMITTED: 08Jun64 ENCL: 01 SUB CODE: OP, EC

NO REF SOV: 006 OTHER: 002 ATD PRESS: 4109

Card 2/3

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

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ACCESSION NR: AP5021348

ENCLOSURE: 01

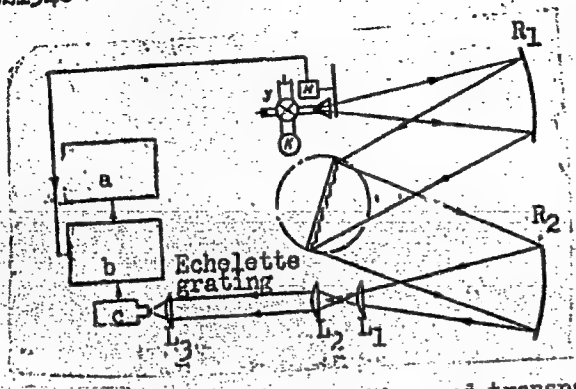

Fig. 1. Setup for measuring reflection and transparency

a - EPP-09 automatic recorder; b - amplifier and synchronous detector; c - optical acoustical receiver; K - electron tube; Y - multiplier; M - modulator; R_1 and R_2 - spherical mirrors (ϕ = 280 mm, F = 750 mm); L_1, L_2, L_3 - short-focus polystyrene lenses (ϕ = 74 mm, F = 60 mm).

Card 3/3

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 2688-66 EWT(1)/EWA(h)
ACCESSION NR: AP5021349

UR/0120/65/000/004/0144/0145
621.372.8:621.315.61

38
37
B

AUTHOR: Dianov, Ye. M.; Trisova, N. A.; Karlov, N. V.

TITLE: Use of dielectric waveguides in millimeter-band spectroscopy

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 144-145

TOPIC TAGS: waveguide, dielectric waveguide, circular waveguide, microwave spectroscopy

ABSTRACT: Waveguides made from solid, homogeneous, flexible polyethylene rods of circular cross section were used to excite EPR resonators submerged in liquid helium and to conduct energy to receiving elements based on semiconductor photoconductivity at liquid helium temperatures. The real and imaginary parts of the polyethylene refractive index were $n = 1.51$ and $k \approx 3 \cdot 10^{-4}$ (at $\lambda = 2$ mm). Use of the waveguide made it possible to conduct tests with a single well-aligned, rigidly fixed emission source in several experimental arrangements. The focal spot (~4 mm) of the quasi-optical system excited a conical horn whose inlet aperture somewhat

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ACCESSION NR: AP5021349 1

exceeded the focal spot diameter. Waveguide losses were negligible. The liquid helium proved less volatile than when metal waveguides are used. Orig. art. has: 1 figure. [TS]

ASSOCIATION: Fizicheskiy institut AN SSSR, Moscow (Physics Institute, AN SSSR)

SUBMITTED: 22Jun64 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 002 ATD PRESS: 4102

Card 2/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 6491-66 EWT(1)/EEC(k)-2/FCS(k)/EWA(h) WR

ACC NR: AP5027994 SOURCE CODE: UR/0386/65/002/007/0323/0326

62
60
B

AUTHOR: Vinogradov, Ye. A.; Dianov, Ye. M.; Irisova, N. A.

ORG: Physics Institute im. P. L. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Fabry-Perot interferometer for the short millimeter and submillimeter bands with metallic grids having periods smaller than the wavelength

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. (Prilozheniye), v. 2, no. 7, 1965, 323-326

TOPIC TAGS: interferometer, millimeter wave, submillimeter wave, microwave component, diffraction grating

ABSTRACT: The authors report the development of elements which have a periodic structure with a period smaller than the wavelength for use as mirrors in a Fabry-Perot interferometer (Fig. 1). These grids were made of parallel metal wires stretched over metal rings. One grid of the interferometer was rigidly secured, and the other could be moved slowly, with the aid of a special precision mechanism, so that both grids remained parallel to each other. The interferometer could operate both in reflection and transmission regimes. Such an interferometer has an unusually large bandwidth. Thus, a single model could be used for measurements in the entire range from 4 to 0.5 mm. The grids used had apertures (a) 100 and 50 mm, wire spacing (l) from 0150 to 40 μ, and wire thickness (2r) from 15 to 8 μ. When operating with tungsten grids, a Q-factor of approxi-

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L 6491-66

ACC NR: AP5027994

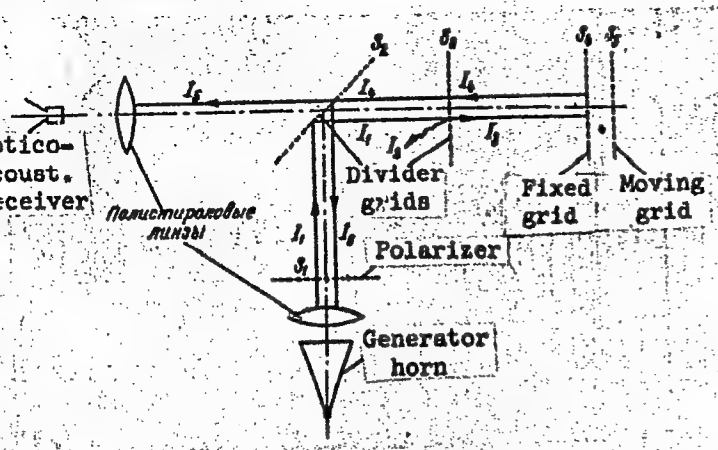

Fig. 1. Diagram of Fabry-Perot interferometer operating with reflected signal

S_i - Grids with parallel wires; I_i - radiation intensity in the beams (relative intensity distribution in the absence of resonance is $I_1 = 1$, $I_2 = I_3 = I_4 = 1/2$, $I_5 = 1/4$, and $I_6 = 1/4$).

mately 50 was obtained in the first order at $\lambda = 0.5$ mm, and up to 750 at $\lambda = 2$ mm. The energy loss and the dependence of the Q factor on the different parameters were investigated at $\lambda = 2$ mm. The loss is estimated at $\leq 5 \times 10^{-4}$, and the reflection coefficient of the grid is found to be $R > 0.998$. It is concluded that similar reticular elements can be extensively used in quasi-optical apparatus for the short millimeter and submillimeter bands, and can serve as a basis for the construction of

Card 2/3

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

elements that are in some sense similar to individual waveguide parts. In addition to the described Fabry-Perot interferometer, the authors constructed also a beam-splitting device with variable splitting coefficient, and a device of the Michelson interferometer type for measurements at liquid-nitrogen temperature. Authors are very grateful to Corresponding Member A. M. Prokhorov in whose laboratory this work was performed, for continuous interest and support, and to Corresponding Member N. D. Devyatkova for help during the course of this work. Orig. art. has: 1 figure and 1 table. [02]

SUB CODE: EC/ SUBM DATE: 30Jul65/ ORIG REF: 004/ OTH REF: 002/ ATD PRESS: 4140

Card 3/3

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 5144-66 EWT(1)/EPA(s)-2/EPF(c)/EEC(k)-2/FCS(k)/EWA(h) IJP(c) WW/GG/WR
ACCESSION NR: AP5026899 UR/0109/65/010/010/1804/1808 69
535.854 66
B

AUTHOR: Vinogradov, Ye. A.; Dianov, Ye. M.; Irisova, N. A. 44,55 44,55 44,55 21, 44,55

TITLE: Michelson interferometer for measuring the refractive index of dielectrics in the 2-mm band 25 21,44,55

SOURCE: Radiotekhnika i elektronika, V. 10, no. 10, 1965, 1804-1808

TOPIC TAGS: interferometer, dielectric material

ABSTRACT: The development of a new instrument for measuring the refractive index of low-loss dielectrics in the 2-mm band is reported; the instrument is analogous to the well-known Michelson optical interferometer. Two readings, with and without the specimen in one of the instrument arms, are taken; the flat 50-mm diameter specimen is placed between the radiating horn and the movable mirror. Standard waveguide components and polystyrene lenses are used in the interferometer. Actual values of the refractive index measured by the new instrument at a wavelength of 2.31 mm are reported for teflon, alkathene, polystyrene, plexiglass, ebony, fused quartz, common salt, and glasses; these values (from 1.4 to 3.2) are compared with the data published elsewhere. Various errors involved amount to

Card 1/2

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 5144-66
ACCESSION NR: AP5026899

44,55 3

small fractions of one percent. "The authors wish to thank A. M. Prokhorov for his constant attention to this project." Orig. art. has: 2 figures, 2 formulas, and 2 tables. [03]

ASSOCIATION: none

SUBMITTED: 10Jul64 ENCL: 00 SUB CODE: OP, EM

NO REF SOV: 003 OTHER: 005 ATD PRESS: 4134

Card 2/2 md

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

L 38424-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) GG/WW/JW/JD

ACC NR: AP6025266 SOURCE CODE: UR/0057/66/036/007/1319/1320

AUTHOR: Vinogradov, Ye. A.; Dianov, Ye. M.; Irisova, N. A.

ORG: Physics Institute im. P. N. Lebedev, Moscow (Fizicheskiy Institut)

TITLE: Measurement of dielectric characteristics of liquid nitrogen at wavelength λ = 2.3 mm

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 7, 1319-1320

TOPIC TAGS: liquid nitrogen, dielectric constant, absorption coefficient

ABSTRACT: Measurements of dielectric characteristics of liquid nitrogen were made at wavelength λ = 2.3 mm to study the properties of solids immersed in liquid nitrogen. The liquid nitrogen was kept in a polystyrene cryostat and a Michelson interferometer was used to obtain the refraction index by measuring the monochromatic wavelength in free space and in liquid nitrogen. The transmittance T of a layer of nitrogen with thickness d was measured to determine the coefficient of absorption K from the relationship $T = e^{-4\pi k d/\lambda}$. The following results were obtained: coefficient of refraction, n = 1.196 ± 0.007; coefficient of absorbtion, $K = (1.6 \pm 0.3)\cdot 10^{-4}$ for λ = 2 mm, neglecting boiling of nitrogen at the walls of the Dewar. If the boiling layer at the walls is not neglected, then K can be as high as $4\cdot 10^{-4}$. [IV]

SUB CODE: 20/ SUBM DATE: 20Nov65/ ORIG REF: 002/ ATD PRESS: 5043

UDC: 537.226.1

Card 1/1

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

AUTHOR: Vinogradov, Ye. A.; Irisova, N. A.; Mandel'shtam, T. S.; Prokhorov, A. M.; Shmaonov, T. A.

SOURCE CODE: UR/0386/66/004/009/0373/0376

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Resonance absorption of the V^{3+} ion in corundum at 1.21 mm wavelength

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 9, 1966, 373-376

TOPIC TAGS: corundum, vanadium, resonance absorption, low temperature research, microwave spectroscopy, hyperfine structure

ABSTRACT: The authors report an experimental investigation of resonance absorption of the V^{3+} ion in corundum at wavelength $\lambda \sim 1.21$ mm and at liquid-helium temperature in magnetic fields from 0 to 5 kOe. The observed absorption corresponded to transitions from the lower level corresponding to the singlet state $S_{Z'} = 0$ to the levels of the higher doublet ($S_{Z'} = \pm 1$). The resonance absorption of the V^{3+} (~0.1%) in corundum was measured with a quasioptical feed-through spectroscope without cavity, which was constructed by the authors. The radiation source was a backward-wave tube generating an average of ~3 mW in the range from 0.83 to 1.35 mm. The microwave power was fed quasioptically to a sample placed in a helium cryostat via teflon windows in the cover. The helium cryostat could be placed between the poles of an electromagnet. Two series

Card 1/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ACC NR: AP7000401

of measurements were made. In the first, the absorption line was investigated in different constant magnetic fields, including zero field, with the microwave-oscillator frequency continuously variable. In a zero field, two closely-spaced absorption lines were observed, corresponding to transitions from the lower singlet level of the V^{3+} ion to the levels of the doublet $S_z' = \pm 1$. The frequencies of the transitions from the lower level to each of the doublet levels were found to be $D_1 = (247.3 \pm 0.3)$ and $D_2 = (248.9 \pm 0.3)$ GHz, and the initial splitting of the doublet was $2E = (1.6 \pm 0.6)$ GHz. The calculated coefficient of resonance absorption of V^{3+} in corundum was $\alpha \geq 0.3$ cm^{-1}. The second series of measurements was made at a number of fixed frequencies with the magnetic field varied from 0 to 5 kOe. The absorption line observed in this case consisted of eight hfs components. The splitting between the singlet and the doublet, equal to 247.8 GHz, coincides within the limits of experimental error with $D = (D_1 + D_2)/2$ determined in the first measurement series. When the external magnetic field tends to zero, the distance between the outermost components yields the upper limit of the initial doublet splitting, $2E \leq 2.1$ GHz.

The authors are grateful to V. Kh. Sarkisov, director of the Corundum Laboratory of Kirivokanskiy khimkombinat, for supplying the investigated sample. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 28Jul66/ ORIG REF: 002/ OTH REF: 005
ATD PRESS: 5107

Card 2/2

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

ACC NR: AP6030721 SOURCE CODE: UR/0368/66/005/002/0251/0254

AUTHOR: Dianov, Ye. M.; Irisova, N. A.

ORG: none

TITLE: Determination of the absorption coefficient of solids in the shortwave part of the millimeter region

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 2, 1966, 251-254

TOPIC TAGS: absorption coefficient, millimeter wave, dielectric material, measurement, radiation intensity, spectroscopy, SOLID STATE

ABSTRACT: A new technique for the determination of the absorption coefficient of solids is described. The principle of this technique is to measure the extreme values of the transmission coefficient T by varying the magnitude of d/λ, i.e., the ratio of the sample thickness d to the wavelength λ. The absorption coefficients of NaCl, CsJ, plexiglass, fused quartz, teflon, and K-8 glass were determined by this technique at $\lambda = 2$ mm for which the experimental error did not exceed 0.01. The new technique is intended for measuring in the presence of a clearly expressed interference image and can be applied to a wider range of substances without lowering the accuracy of the measurement results. The authors thank A. M. Prokhorov, Academician of the AN SSSR, for the use of his laboratory, constant attention, and interest in this work. [illegible] formulas.

Card 1/2

UDC: 535.341

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873(

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00051873

EWT(1)/T IJP(c) GG

ACC NR: AP6024508 SOURCE CODE: UR/0181/66/008/007/2265/2266

AUTHOR: Dianov, Ye. M.; Irisova, N. A. 58 56 B

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Measurement of the refractive index of crystals with structures of the NaCl and CsCl type

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2265-2266

TOPIC TAGS: ionic crystal, refractive index, dielectric constant, temperature dependence, crystal lattice structure

ABSTRACT: To check whether the temperature coefficient of the dielectric constant depends on the type of crystal structure, the authors measured the refractive index of the ionic crystals LiF, NaCl (NaCl structure), CsBr and CsI (CsCl structure) at room and nitrogen temperatures, at 2 mm wavelength, using a Michelson interferometer described by them earlier (Radiotekhn. i elektron. v. 10, 1804, 1965). In calculating the refractive index, allowance was made for the temperature variation of their thickness. The results showed that at 2 mm wavelength the dielectric constants are close to the published static values, with the exception of CsI (6.30), which is higher than the published value (5.70) (Landolt-Bornstein, Zahlewerte und Funktionen v. 6, 452, 1959), but is close to the value obtained by others experimentally at 30 cm wavelength (6.42). This suggests that the value published in the standard tables is in error.

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The change of the refractive index on going from room temperature to nitrogen temperature is larger by almost a factor of 3 in NaCl-type crystals than in CsCl-type crystals. This agrees with results by E. E. Havinga and A. J. Bosman (Phys. Rev. v. 140, 1A, A292, 1965) obtained at a different wavelength, and can be attributed to the difference in the coordination numbers of the two types of crystal structure. The authors thank A. M. Prokhorov for interest in the work and a discussion of the results, and V. N. Timofeyev for taking part in the work. Orig. art. has: 1 table.

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AUTHOR: Dianov, Ye. M.; Timofeyev, V. N.; Irisova, N. A.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Measurement of the absorption coefficient of glasses in the submillimeter range

SOURCE: Fizika tverdogo tela, v. 8, no. 9, 1966, 2643-2648

TOPIC TAGS: absorption coefficient, glass property, refractive index

ABSTRACT: The absorption coefficient of two types of glass (window and type 203) was measured in the 2-0.5 mm range using a monochromatic radiation source. The device employed is described in detail. The findings are compared with those of M. D. Mashkovich and A. I. Demeshina (FTT, 7, 1634, 1965), obtained by using nonmonochromatic radiation, and with other published data. A monotonic increase of the absorption coefficient with decreasing wavelength was observed. The temperature dependence of the absorption of the glasses and of their refractive index was determined; the absorption coefficients were found to decrease linearly by a factor of approximately 2 as the samples were cooled from room to nitrogen temperature. Authors thank M. D. Mashkovich for kindly supplying the glass samples, A. M. Prokhorov for his attention

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and interest in the work, and Ye. A. Vinogradov for his assistance. Orig. art. has: 5 figures.

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